

USSR

IL'YICHEV, V. D., GOLUBEVA, T. B., ANISIMOV, Ye. Ye.

"Electrophysiological Characteristics of the Acoustic Analyzer of Birds. II. Medullary Acoustic Nuclei and the Cochlea"

Moscow, Biologicheskoye Nauki, Vol 13, No 7, 1970, pp 51-55

Abstract: A review is presented of studies conducted by many authors on the various potentials and characteristics of the acoustic apparatus. It is suggested that, in order to develop adequate research methods, the work of histologists and electrophysiologists should be unified.

Entered 27/III 1980

Chair of Vertebrate Zoology, Moscow State University im. M. V. Lomonosov

1/1

USSR

UDC 621.791.053:620.172.24:620.172.25

BAKSH, O. A., MONOSHKOV, A. N., and ANISIMOV, Yu. I., Chelyabinsk, Chelyabinsk Polytechnical Institute

"Low-Temperature Effect on the Efficiency of Welded Joints Under Static Tension"

Kiev, Problemy Prochnosti, No 8, Aug 70, pp 74-79

Abstract: An outline is given for a procedure for the theoretical evaluation of the ductility and brittleness of welded joints of compact cross section with a smooth interlayer, which are subjected to static tension. Mechanical inhomogeneity and temperature (up to 78° K) are taken into account. The plastic properties and type of failure, in relation to service temperature, were investigated under certain assumptions. Tests samples were made of 45Kh and St10 steels, welded by friction. Tests were conducted on an UMM-5 test machine at temperatures of -20, -78, -100, -150, -170, and -196°C, with a deformation rate of 1.1×10^{-3} sec. The results show that with decreasing T and with a reduction in the relative thickness of the interlayer χ , the yield point and short-time strength increase.

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USSR

BAKSH, O. A., et al., Problemy Prochnosti, No 8, Aug 70, pp 74-79

A transfer of fracture from the soft interlayer toward the hard metal was observed in the entire temperature range and at sufficiently small values of χ . The range of interlayers with brittle fracture widened with decreasing temperature, attaining $\chi = 0.9$ at 78° K. The test procedure is described briefly.

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USSR

UDC 541.123.2:[546.621-31+546.45-31]:[532.6+542.3]

YELIYUTIN, V. P., MITIN, V. S., and ANISIMOV, YU. S., Moscow Institute of Steel and Alloys

"Surface Tension and Density of Al_2O_3 -BeO Melts"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, No 9, Sep 73, pp 1585-1587

Abstract: Researchers today are paying considerable attention to the study of the properties of liquid oxides of aluminum and beryllium because of the expanding use of powders from these metals and their alloys in solid rocket fuels. One of the main factors in this research is the determination of density and surface tension of oxides in the liquid state. The authors of this article established the concentration dependence of surface tension and density of liquid Al_2O_3 -BeO melts. They measured the surface tension and density of pure aluminum oxide and melts of Al_2O_3 as a function of temperature. The values of surface tension of pure Al_2O_3 were found to be lower than that found previously. The value of the density of liquid aluminum oxide, equal to 3.03 g/cm^3 , at the melting point is found to be in good agreement with previous data, but the temperature coefficient of the density is somewhat higher. The article contains 2 figures, 1 table, and 4 bibliographic references.

1/1

Acc. Nr: **AP0100578** Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:
U R 0065

102360w Preparation of transformer oil from Sangachaly Sea petroleum by adsorption and hydrogenation methods. Kuliev, R. Sh.; Kevorkova, I. S.; Anisimova, A. M. (USSR). *Khim. Tekhnol. Topl. Masel* 1970, 15(2), 20-2 (Russ). By adsorption purification on the optimum amt. (25%) of an aluminosilicate catalyst at 35° and by hydrogenation on a WS₂ catalyst at a vol. input rate of 0.5 hr⁻¹ at 300°/300 atm with 1000 l. H l. distillate, viscosity at 50°, acid no., and f.p. of a dewaxed distillate transformer oil were changed from 7.08 cSt, 0.36 mg KOH/g and -47° to 7.09 and 7.27 cSt, 0.01 and 0.02 mg KOH/g and -45°, resp., color and transparency were improved, and stability toward oxidn. was raised to the level specified by GOST 981-55 and 11257-65. The resp. stabilized oils had flash points of 150° and tan angles of dielec. loss at 70° of 0.17 and 0.31. Process variable ranges explored were 25-150°C adsorbent and hydrogenation temps., pressures, and H concns. of 300-425°, 50-300 atm, and 300-1000 l. l.

Lucile S. Davison

REEL/FRA
19842013

USSR

UDC 669.245'26'295'71:620.166:669.018.2:621.785.78

PAISOV, A. I., DMITRIYEV, L. I., ANISIMOVA, G. V., and KORNEYEVA, N. N.

"Study of the Effect of Aging Temperature on the Structure and Properties of KhN77TYuR Alloy"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul. VILSa (Technology of Light Alloys. Scientific and Technical Bulletin of All-Union Institute of Light Alloys), 1970, No 5, pp 97-102 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 31751 by E. Volin)

Translation: The interrelationship is found between σ_{100} and $\sigma_{0.2}$ at 700 and 800° (from reference data), characterized by the correlation factor 0.9 and 0.86 respectively, as well as between σ_{1000} and $\sigma_{0.2}$ and testing temperature, correlation factor 0.71. KhN77TYuR alloy was tested after heating to 1080°, 8 hr, with subsequent aging at 700-850°, 16 hr. An aging temperature increase in the 700-800° range increases heat resistance and stability of structure. Aging at 850° sharply reduces rupture strength as a result of a decrease in the quantity of the strengthening phase. Air cooling from 1080° assures a higher rupture strength as a result of further aging in tests than with subsequent

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PAISOV, A. I., et al., Tekhnol. legkikh splavov. Nauchno-tekhn. byul. VIIsa, 1970, No 5, pp 97-102

aging at 700 and 800° (³⁵ 750 150 hr as against 95 and 120 hr respectively).

0.2 changes analogously. Four illustrations. Bibliography with seven titles.

2/2

USSR

ANISIMOVA, L. F.

"The Use of Linear Correlation Relations for Restoration of Information Concerning a Transient Process Which Has Been Lost"

Tr. Mosk. Aviats. In-ta [Works of Moscow Aviation Institute], 1972, No 258, pp 10-16 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V143)

Translation: Suppose X_1, X_2, \dots, X_n are statistically related random parameters, and the results of measurements of parameter X_1 may be lost during recording of the values of the parameters.

An algorithm is suggested for restoration of the lost values of parameter X_1 on the basis of values of parameters X_2, \dots, X_n , based on a set linear regression equation. The ordinary method and the method of Chebyshev are used to compose the regression equation.

YU. Shinakov

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USSR

UDC 547.241

NIKOLAYEVA, V. G., ANISIMOVA, L. V., MUKHACHEVA, O. A., and RAZUMOV, A. I.,
Kazan' Chemical-Technological Institute Imeni S. M. Kirov

"Studies in the Series of Phosphinic and Phosphinous Acid Derivatives LXXXIX.
Structures and Properties of Phosphorylated Hydroxamic Acids and Their Salts"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1013-1019

Abstract: A series of phosphorylated hydroxamic acids and salts was synthesized by a previously described method. Physical constants, IR, UV, and PMR data are reported for the new compounds. On the basis of spectral analysis it was shown that the solid phosphorylated hydroxamic acids and their salts are in the amide form $R_2P(=O)(CHX)_nC(=O)NHCH$.

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USSR

UDC 669.15'28.26.25.24:621.78

SHA: KHAZAROV, YU. V., ANISIMOVA, M. S., BARAKHTIN, B. K., and SHUL'IAN, V. K.,
Leningrad

"The Stabilization of Austenite with Inverse Conversion in Cr-Co-Mo and Cr-Ni-Co-Mo Steels"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 160-163

Abstract: The stabilization of austenite was investigated with inverse conversion in Kh15K19M3 steel not containing Ni, and in Ni-containing Kh14K14N4M3 steel, both melted in one-ton vacuum arc furnaces. The effect of the aging temperature on characteristic factors as the quantity of residual austenite, electric resistance, period of α -phase lattice, impact ductility, and hardness, is discussed by reference to diagrams. The lowered stability of austenite, developing on initial stages of $\alpha \rightarrow \beta$ conversion according to the shifting mechanism, indicate a low contribution of phase peening to the stabilization effect. The maximum stability results with the development of $\beta \rightarrow \alpha$ conversion, which becomes possible by a significant redistribution of elements. Considering the increased solubility of Mo in martensite at decreasing Co content, it can be assumed that the stabilization of austenite in steel not containing Ni is in presence of Cr, determined by β -phase concentration with Co. Three figures, eight bibliographic references.

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USSR

MR 579.5:621.71

ANISKOVA, N. I., SACHNOV, YU. I.

"Experimental Study of the Stresses of the Crankshaft of a 4M14-100/100000 Compressor"

Tr. Gor'kov. in-ta inzh. vosh. transn. (Works of the Gor'kov Institute of Motor Transportation Engineers), 1971, vyp. 112, pp 42-51 (from MAK No 11, Nov 71, Abstract No 11V954)

Translation: A description is presented of tensometric measurements in the flanges and fillets of the crankshaft of the 525 kilowatt series compressor, with a cantilevered electric motor performed by the Gor'kov Scientific Research Materials Testing Laboratory in Cooperation with the Leningrad Branch of Scientific Research and Design Institute of Chemical Machinery. Experiments were defined for the fluctuating allowable magnitudes of the divergences of the fillets of the shaft and the effect of the forces of eccentric attraction of the rotor to the stator vanes on the eccentricity. A sketch of the method of strain gauges. The results of the studies are presented graphically. The following basic conclusions were drawn: the basic effect on the strength of the investigated shaft comes from the cantilever loading, and the influence of the rotor

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ANISIMOVA, N. I., et al., Tr. Cor'kov. in-ta inzh. veda. transp., 1971, vol. 112, pp 22-31

of the shaft exceed the allowable values. The allowable spread of the shaft offset of the shaft from the electric motor with the rotor heated is 0.10 mm (the minimum margin of safety is 2). Use of one-way magnetic attraction is effective, especially for worn bearings. An initial eccentricity in the rotor from 0.25 to 0.45 is recommended.

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USSR .

UDC 574.6

ANISIMOVA, T. N., Compiler, Bionika. Bibliograficheskiy Ukazatel' Otechestvennoy i Inostrannoy Literatury 1958-1968 (Bionics. Bibliographic Index of Soviet and Foreign Literature 1958-1968), Moscow, "Nauka," 1971, 168 pp

Translation: Annotation: This bibliography contains literature on bionics and certain related fields of biology, automation, and cybernetics for 1958-1968. The literature is classified with due regard for the basic areas of interest in bionics, such as biomechanics and bioenergetics, the problem of modeling receptors and analysors, biological aspects of the problem of innate recognition, the problem of animal orientation and navigation, modeling nerve networks and the brain, and so on. The index is intended for scientific workers, engineers, teachers, and students working in bionics and related fields.

Foreword:

Since 1963, the Library of Technical Literature of the Sector of the Network of Special Libraries of the Academy of Sciences USSR, together with the bionics sections of the Scientific Council on the Complex Problem of Cybernetics and the Scientific Council on Problems of Navigation and Automatic Control of the Academy of Sciences USSR, has been compiling a card index of literature on bionics. On the basis of this card index, bibliographic
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USSR

ANISIMOVA, T. N., Compiler, Bionika. Bibliograficheskiy Ukazatel' Otechestvennoy i Inostrannoy Literatury 1958-1968 (Bionics. Bibliographic Index of Soviet and Foreign Literature 1958-1968), Moscow, "Nauka," 1971, 168 pp

indexes on particular problems of bionics have been published and operational bibliographic bulletins have been compiled regularly.

Because the literature gathered may be of interest to a broad range of workers at scientific research institutes, higher educational institutions, and industrial organizations doing research in the area of bionics or using the achievements of bionics, the Sector of the Network of Special Libraries of the Academy of Sciences USSR decided to publish a bibliographic index of domestic and foreign literature on bionics for 1958-1968. In the process of preparing the index, the card file was significantly supplemented by reviewing sets of journals, bibliographic publications, library catalogues, Russian and foreign reference journals, and other sources. The index includes literature for 1958-1968 and, partially, for 1969.

This is the first time in the Soviet Union that a bibliography has been published which encompasses literature on the most varied areas of bionics,
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USSR

ANISIMOVA, T. N., Compiler, Bionika. Bibliograficheskiy Ukazatel' Otechestvennoy i Inostrannoy Literatury 1958-1968 (Bionics. Bibliographic Index of Soviet and Foreign Literature 1958-1968), Moscow, "Nauka," 1971, 163 pp

which has appeared during the existence of bionics as an independent scientific area. Due to the multidisciplinary nature of bionic research, the index includes literature directly related to bionics as well as literature pertaining to certain related fields of biology, medicine, automation, cybernetics, and other areas, because research in these fields is closely linked with bionics and may exert a substantial influence on its development.

As the first attempt to publish a broad bionics bibliography, the index will certainly make some omissions. Because the basic purpose was to compile a bibliographic aid for scientific workers, some articles of a popular nature have not been included in the index.

The literature was classified in accord with the basic areas which have taken shape in bionics and have been outlined, in particular, at the All Union Conferences of 1963, 1965, and 1968. Among these basic areas are the problems of biomechanics and bioenergetics, modeling receptors, and analysors, the bionic aspects of the problem of image recognition, orientation and navigation by biological objects, and the problem of control in biological systems.

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USSR

ANISIMOVA, T. N., Compiler, Bionika. Bibliograficheskiy Ukazatel' Otechestvennoy i Inostrannoy Literatury 1958-1968 (Bionics. Bibliographic Index of Soviet and Foreign Literature 1958-1968), Moscow, "Nauka," 1971, 168 pp

In view of the specific nature of some sections, the literature in each of them has been grouped by separate areas and problems in the manner that seemed most expedient for that section. Subsections are introduced considering the biological, ecological, and physical-technical aspects of the corresponding problem and the specifics of scientific research work on the problem.

Annotations are given for certain Russian and foreign sources in order to further reveal content. Translations of titles are given for foreign works. For convenience in use, the bibliography has appendices -- an author index and an index of abbreviations of literature sources.

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11/11

1/2 033

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--TERPOLYMER OF FLUORO SUBSTITUTED STYRENES WITH STYRENE AND WITH
DIENES -U-

AUTHOR--(05)--ANISIMOVA, V.V., GORSHKOVA, I.A., DUKUKINA, A.F., PETERKIN,
B.D., SMIRNOVA, Z.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 256-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYMERIZATION, FLUORINATED ORGANIC COMPOUND, STYRENE, DIENE,
ISOPRENE, COPOLYMER, ELASTICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/0780

STEP NO--UR/0153/70/013/002/0256/0258

CIRC ACCESSION NO--AP0124449

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124449

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF COMONOMER MIXT. COMPN. ON THE COMPN. AND PROPERTIES OF THE TITLE TERPOLYMERS WAS STUDIED. EMULSION OR BULK POLYMN. OF STYRENE (I), BUTADIENE (II) OR ISOPRENE (III), AND P PHC SUB6 H SUB4 CF:CF SUB2, PHCF:CFSUB2 (IV), C SUB6 F SUB5 CMe:CHSUB2, PHCF: CFCL, OR RPHC SUB6 H SUB4 CF: GAVE 12 HIGH MOL. WT. TERPOLYMERS, IN 17.9-72.4PERCENT YIELDS, WHOSE FLUOROSTYRENE CONTENTS (05.-24PERCENT) WERE SIGNIFICANTLY LOWER THAN THOSE IN THE ORIGINAL MONOMER MIXT. (3.66-49-82 MOLE PERCENT). EMULSION POLYMN. OF A I-II-III MIXT. AND BULK POLYMN. OF I, III, AND C SUB6 F SUB5 CH:CH SUB2 DID NOT GIVE TERPOLYMERS. REACTIONS WITH ISOPRENE REQUIRED SIMILAR TO 4 TIMES LONGER. THE HIGHER THE II CONTENT OF A TERPOLYMER, THE HIGHER ITS MOL. WT. TERPOLYMER CONTG. GREATER THAN 20PERCENT II WERE RUBBERS; FILMS CAST FROM BENZENE SOLN. WERE MORE ELASTIC THAN THOSE OF COPOLYMERS NOT CONTG. II. FACILITY: LENINGRAD. POLITEKH. INST. IM. KALININA, LENINGRAD, USSR.

UNCLASSIFIED

ANISIMOVA, Ye. P.

Hydrometeorology

(Article by Ye. P. Anisimova, Senior Researcher of the Institute of Meteorology and Hydrology, Academy of Sciences of the USSR, published in "Izv. Vsesoyuzn. nauch. issled. tsentra gidrometeorologii", No. 1, 1964, pp. 1-10)

When investigating the problem of turbulent flow in the atmosphere, it is necessary to take into account the effect of the Earth's rotation on the motion of air masses, which has a significant effect on the dynamics of the atmosphere.

At the same time, it is necessary to consider the effect of the Earth's rotation on the motion of air masses, which has a significant effect on the dynamics of the atmosphere.

The effect of the Earth's rotation on the motion of air masses is taken into account in the equations of motion of the atmosphere, which are solved for the motion of air masses in the atmosphere.

The effect of the Earth's rotation on the motion of air masses is taken into account in the equations of motion of the atmosphere, which are solved for the motion of air masses in the atmosphere.

USSR

UDC 576.8

RYBAKOV, N. I., GUBERNIYEV, M. A., CHIMIROV, O. B., DROZHENNIKOV, V. A.,
KOLOBOV, A. V., ANISKIN, Ye. D., and KOZLOV, V. A., Institute of Experimental
Biology, Academy of Medical Sciences USSR

"The Effect of Some Radioprotectors on Processes Associated With Lysogeniza-
tion of Bacteria and Induction of Intracellular λ -Exonuclease"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 1, 1970,
pp 38-42

Abstract: The radioprotector finam (an aminothiols) inhibited the frequency of
lysogenization of E. coli SF-14 (λ -try^{-S}) by λ -phage and inhibited the
synthesis of induced λ -exonuclease at different times after infection. The
effect was most pronounced in early stages of infection. After thirty minutes
the inhibiting effect of the radioprotector on λ -exonuclease activity de-
creased sharply. Results of determination of the activity of λ -exonuclease
are consistent with data on the effect of finam on lysogenization of the same
bacterial strain. This suggests that enzyme systems play a part in the de-
velopment of lysogenicity in bacterial cells. These enzymes may be DNases of
the endonuclease type.

1/1

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Acc. Nr:

170046553

Ref. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya
Biologicheskaya, 1970, Nr 1, pp 38-42

Rybakov, N. I.; Guberniyev, M. A.; Chimirov, O. B.;
Drozhzhnikov, V. A.; Aniskin, Ye. D.; Kolesov, A. V.;
Kozlov, V. A.

INFLUENCE OF SOME RADIOPROTECTORS ON THE PROCESSES CONNECTED
WITH LYSOGENIZATION OF THE BACTERIA AND INDUCTION
OF INTERCELLULAR λ -EXONUCLEASE

The influence of the radioprotector linam on the processes of lysogenization of the bacteria with the λ phage and induction of λ -exonuclease was studied in the laboratory experiments with E. coli SF-14 (λ -try-S').

It was shown that this preparation strongly suppresses the induction of λ phage and lysogenization and oppresses synthesis of the induced λ -exonuclease.

The results concerning activity of this enzyme definitely correlate with the data related to the influence of linam on the lysogenization process of the same bacteria strain.

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REEL/FAME
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USSR

UDC: 631.333:53

ANISKOV, V. V., LIBEROV, A. B.

"Specialized Analog Computer 'Segraf-1' and Experience in Operating It"

Analogo-vychisl. tekhnika v organizatsii proiz-va i issled. bol'shikh sistem (Analog Computers in the Organization of Production and Investigation of Large Systems), Moscow, 1970, pp 137-145 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 70, Abstract No 6B91)

Translation: The "Segraf-1" specialized analog computer is described. It is designed for operative calculation, analysis, and optimization of PERT charts of small and medium volume containing up to 500-600 operations of which <300 are active (that is, operations the length of which is nonzero). Experimental operation of the computer showed that when solving optimization problems, the "Segraf-1" analog computer has greater advantages than the all-purpose digital computer (for example, the Ural-11 type), since it permits rapid "playback" of the various versions, significantly improving the dynamics and quality of control. There are two illustrations, one table, and a three-entry bibliography.

1/1

USSR

UDC 621.397.332.2:621.317.799:531.71

ANISKOVICH, A. G., RUSAKOV, V. I.

"Selecting the Type of Scanning for Television Measuring and Control Devices"

Nekotoryye vopr. teorii i provektir. televizionno-vvchisl. sistem -- V sb.
(Some Problems of Theory and Design of Television Computing Systems -- collection of works), Tula, 1970, pp 21-30 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G187)

Translation: It is demonstrated that the accuracy of TV-instruments for controlling the dimensions of parts can be increased by replacing the ordinarily used line scanning by driven sweep exponential or continuous sinusoidal scanning. There are 6 illustrations and a 4-entry bibliography.

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1/2 016 UNCLASSIFIED PROCESSING DATE--23 OCT 7
TITLE--EXPERIMENTAL STUDY OF SOME MANIFESTATIONS CONSEQUENT TO BIOLOGICAL
ACTION OF THE VITAMIN A -U-
AUTHOR-(03)-VEORDVA, I.N., ANISOVA, A.A., OSETROVA, S.YA.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY PITANIYA, 1970, NR 3, PP 37-40
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VITAMIN DEFICIENCY, SKIN PHYSIOLOGY, HISTOLOGY, DIET

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/2052

STEP NO--UR/0244/70/000/003/0037/0040

CIRC ACCESSION NO--AP0120695

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--13 NOV 70
 TITLE--THE ROLE OF THE A-FACTORY IN THE STREPTOMYCINE BIOSYNTHESIS
 OTHER--(U) IZVESTIYA, I.I., KORNITSKAYA, YE.YA., PLINIK, S.A., SHEVCHENKO, L.A., 1970, NR. 3, P. 427-434.
 COUNTRY OF INFO--USSR
 SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR. 3, PP. 427-434
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--STREPTOMYCIN, BIOSYNTHESIS, ACTINOMYCETES, BACTERIA MUTATION, TRANSAMINASE

2/2 016 UNCLASSIFIED PROCESSING DATE--23 OCT 7
 CIRC ACCESSION NO--AP0120695
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF DIFFERENT VITAMIN A DOSES ON THE STRUCTURE OF THE EPITHELIAL TISSUE ELEMENTS BY COMPARISON WITH THE DYNAMICS OF THE VITAMIN I CONTENT IN THE LIVER AND BLOOD WAS STUDIED IN TESTS SET UP ON YOUNG RATS DIVIDED INTO 4 GROUPS KEPT ON A VITAMIN A DEFICIENT DIET WITH DAILY ADDITION OF VITAMIN A IN AMOUNTS OF 20, 40 AND 80 MUG TO DIFFERENT GROUPS OF ANIMALS. IN THE AUTHORS' INVESTIGATIONS 20 MUG OF VITAM A PROVED TO BE THE MINIMAL DAILY DOSAGE ENSURING NORMAL HISTOLOGICAL STRUCTURE OF THE SKIN AND OF THE ORGANS UNDER STUDY. THE DOSE OF 80 MUG WAS FOUND TO PRODUCE CHANGES IN THE STRATIFICATION PROCESSES, WITHOUT BEING ATTENDED BY ANY EXTERNAL SIGNS TYPICAL OF A HYPERVITAMINOSIS. FACILITY: KLINIKA KOZHNYKH I VENERICHESKIKH BOLEZNEY II MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM. N. I. PIROGOVA AND LABORATORIYA PROFILAKTICHESKOGO DEYSTVIYA VITAMINOV N-I INSTITUTA VITAMINOLOGII MINISTERSTVA ZDRAVOOKHRANENIYA SSSR.

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--13NOV70

IRC ACCESSION NO--AP0126244

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA ARE DISCUSSED CONCERNING THE A-FACTOR CONTENTS IN VARIOUS ACTINOMYCES STREPTOMYCINI STRAINS. THE PRESENCE OF THE A-FACTOR IN ACTIVE STREPTOMYCINE PRODUCERS (STRAINS 3213 AND G-5) WAS SHOWN AS WELL AS IN SOME MUTANT STRAINS WITH DISTURBED BIOSYNTHESIS. ALL THE MUTANTS WHICH HAVE FAILED TO SYNTHESIZE THE A-FACTOR DO NOT PRODUCE ANY STREPTOMYCINE, WHILE ADDITION OF THE A-FACTOR RESTITUTES THEIR ABILITY TO PRODUCE THE ANTIBIOTIC. ANOMYCIN AND CANAMYCIN PRODUCENTS DO NOT FORM ANY A-FACTOR IN THE COURSE OF FERMENTATION AND CONSEQUENTLY THIS SUBSTANCE DOES NOT PARTICIPATE IN THE BIOSYNTHESIS OF THE SAID ANTIBIOTICS. IN THE ABSENCE OF THE A-FACTOR THE INACTIVE STRAIN 1439 DOES NOT PRODUCE ANY STREPTIDIN AND DISPLAYS A LOW TRANSAMIDINASE ACTIVITY. WHEN GROWN IN THE PRESENCE OF THE A-FACTOR THIS STRAIN HAS A HIGH TRANSAMIDINASE ACTIVITY AND SYNTHESIZES CONSIDERABLE AMOUNTS OF STREPTIDINE AND STREPTOMYCIN. THESE OBSERVATIONS SUGGEST THAT THE A-FACTOR PARTICIPATES IN THE FORMATION OF THE STREPTIDINE PART OF THE STREPTOMYCINE MOLECULE. FACILITY: INSTITUTE OF CHEMISTRY OF NATURAL PRODUCTS, ACADEMY OF SCIENCES, USSR.

UNCLASSIFIED

USSR

ANISOVICH, V. V., and SHEKHTER, V. M., Physicotechnical Institute imeni A. F. Ioffe, Academy of Sciences USSR

"The Possibility of Meson- meson Scattering Phase Determination in Processes With Regge Pole Exchange"

Moscow, Yadernaya Fizika, Vol 13, No 3, Mar 71, pp 651-658

Abstract: The article considers unstable particle scattering in transitions of two particles to three, determined by the exchange of one or more Regge poles in the t -channel. The authors begin with a consideration of the kinematics of three-particle reactions and then consider the process $K + \pi \rightarrow K + \pi + p$ (exchange of vacuum states only) for the case in which there is only the exchange of one Pomeron pole and for the case in which there is also the contribution of cuts. This is followed by consideration of the reaction $\pi + p \rightarrow \pi + \pi + N$ (exchange of

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USSR

ANISOVICH, V. V., and SHEKHTER, V. M., Yadernaya Fizika, Vol 13, No 3, Mar 71, pp 651-658

nonvacuum Regge poles) with allowance for the contribution from Regge poles ω , R , and π , where R denotes the trajectory on which is found the resonance π_2 . The article concludes with a discussion of changes which appear in the study of cuts due to the exchange of an arbitrary number of vacuum Pomeranchuk trajectories in conjunction with Reggeons ω , R , and π .

The authors thank A. A. ANSEL'M, B. A. VELIKSON, V. N. GRIBOV, I. T. DYATLOV, A. B. KAYDALOV, V. A. KULRYAVTSEV, and YE. M. LEVIN for useful discussions.

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Polymers and Polymerization

USSR

UDC 678.664-408.8/01.53

KRYUCHKOV, F. A., ANISTKOVA, A. N., and NOVOKRASHCHENOVA, L. N.

"New Semirigid Foam Polyurethane"

Moscow, Plasticheskiye Massy, No 4, 1972, pp 24-26

Abstract: A new semirigid foam polyurethane is described which is based on activated ordinary polyester, triethanolamine and polyisocyanate. A study was made of the rigidity of the foam polyurethane as a function of the water content in the compound, the foam factor, the amount of cross-linking agent and the time from obtaining a specimen of foam polyurethane to testing it.

The rigidity of the specimens of semirigid foam polyurethane increases during the first month, and by the end of the second month the rigidity is 1.5-2.5 times greater than that of the initial specimen. Thereafter the rigidity remains constant. With an increase in the foam factor, the rigidity increases noticeably. An increase in the amount of cross-linking agent leads to an increase in rigidity. With an increase in the amount of cross-linking agent the system becomes more active since the triethanolamine is simultaneously a catalyst of the chemical reactions with the participation of the isocyanate groups.

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1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FERROELECTRIC TRANSITION IN AMMONIUM SULFATE. DIELECTRIC, OPTICAL,
AND ELECTROOPTICAL PROPERTIES NEAR THE CURIE POINT -U-
AUTHOR--(02)-ANISTRATOV, A.T., MARTYNJY, V.G.
COUNTRY OF INFO--USSR
SOURCE--KRITALLOGRAFIYA 1970, 15(2), 308-12
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--FERROELECTRIC EFFECT, PHASE TRANSITION, ELECTROOPTIC EFFECT,
DIELECTRIC CONSTANT, CURIE POINT, CRYSTAL DEFORMATION, AMMONIUM SULFATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/1477 STEP NO--UR/0076/70/015/002/0308/0312
CIRC ACCESSION NO--AP0118466
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0118466

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTROOPTICAL PROPERTIES WERE STUDIED FOR (NH SUB4) SUB2 SO SUB4. THE DIELEC. CONST. AND BIREFRINGENCE WERE DETD. SIMULTANEOUSLY FOR SAMPLES CUT FROM THE SAME CRYSTALS. THE BEHAVIOR OF THE DIELEC., OPTICAL, AND ELECTROOPTICAL PROPERTIES NEAR THE POINT OF THE PHASE TRANSITIONS ARE INTERPRETED ON THE BASIS OF THE MODEL OF D. O'REILLY AND T. TSANG (1967). THE ANOMALIES IN THE BIREFRINGENCE AT THE CURIE POINT ARE ATTRIBUTED TO THE SPONTANEOUS DEFORMATION OF THE CRYSTAL. FACILITY: INST. FIZ., KRASNOVARSK, USSR.

UNCLASSIFIED

Radiobiology

UDC 616.72-018.3-001.29-091

USSR

ZEDGENIDZE, G. A., MODYAYEV, V. P., GULYAYEV, V. A., and ANKINA, M. A.,
Institute of Medical Radiology, Academy of Sciences USSR

"Structural Changes in Articular Cartilage After Irradiation"

Moscow, Meditsinskaya Radiologiya, No 3, 1972, pp 3-10

Abstract: Electron-microscopic and histochemical study of articular cartilage in rabbits revealed a greater heterogeneity of structure than expected. Of the seven structural zones distinguished (acellular, surface, transitional, isogenous groups, columns, hypertrophic cells, and primary calcification), those of the transitional and isogenous groups proved to be the most sensitive to a single dose (900 rad) of local gamma radiation. Within a day of exposure, cells of different sizes and shapes and empty lacunae appeared in these two zones. Vacuolization or wrinkling of the cytoplasm, irregular distribution of chromatin in the nuclei, and various stages of karyopyknosis and karyolysis were characteristic. These changes became increasingly pronounced until day 14 when all the zones were affected. Most of the changes were reversible and signs of restoration (proliferation of cells) began to appear about day 17 in the upper part of the cartilage. The regenerative process was completed by day 30 and the articular cartilage remained unchanged thereafter, but it looked "older" than the tissue of the control animals.

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USSR

UDC 621.318.435.3

ANKHINYUK, V. L., YAKOVITSKIY, E. F.

"Reversing Magnetic Semiconductor Amplifier"

USSR Author's Certificate No 291311, Filed 2/06/69, Published 22/04/71,
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A128 P).

Translation: Two-cycle magnetic semiconductor amplifiers (MA) with dc output are known. Their efficiency is significantly less than that of nonreversing magnetic amplifiers. The purpose of the invention is to increase the efficiency of a reversing magnetic semiconductor amplifier and decrease the power consumed by the controlled transistor. This is achieved by connecting the base-emitter junctions of the controlled transistors to the output windings of a magnetic oscillator and by connecting the bases through stabilizers to output voltage dividers of the corresponding memory units. The reversing magnetic semiconductor amplifier consists of a nonreversing magnetic amplifier with self-saturation, connected through a transistor to the load. The amplifier is controlled by a dc voltage fed to the counter-series connected control windings through a resistor, used to provide a forced magnetization mode. The transistors are controlled by the magnetic oscillator, the output windings of which are connected to the inputs of the transistors.

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USSR

UDC 621.318.435.3

ANKHIMYUK, V. L., YAKOVITSKIY, E. F., USSR Author's Certificate No 291511,
Filed 2/06/69, Published 22/04/71.

At the output of the magnetic amplifier are high-impedence voltage dividers, the variable resistors of which are connected through stabilitrons to the bases of the transistors. The condensers and diodes are used to remove over-voltages arising across the transistors at the moment of switching due to the inductance of the load and the amplifier. Low-capacitance condensers are used to smooth the voltage across the stabilitrons. The bias windings are used to set a voltage near the minimum voltage across the outputs of both MA when the control voltage $U_y = 0$. The variable resistors of the voltage dividers are set in a position such that the breakdown voltage of the stabilitrons is reached at the boundary of the linear sector of the MA control characteristic. The generator commutates the transistor such that the voltage pulses of the two MA reach the load one after the other. When $U_y = 0$, these voltages are equal, as the resulting voltage across the load is equal to zero. When U_y is increased, the output voltage of one MA increases and the amplifier operates in the area of positive internal feedback. During this time, the other MA enters the area of negative feedback and the minimum voltage appears at its output. The resulting mean voltage across the load increases in

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USSR

UDC 621.318.455.5

ANKHIMYUK, V. L., YAKOVITSKIY, E. F., USSR Author's Certificate No 291511,
Filed 2/06/69, Published 22/04/71.

porportion to U_y (the nonlinearities in the lower zone of the control characteristics are mutually compensated). At a certain U_y , the output voltage of the MA reaches the voltage at which the stabilatron breaks down and, with a further increase in U_y , holds the transistor in the open state. Generation is interrupted. The first MA operates with the load, and the second MA is disconnected from the load and operates at the idle with negative feedback. The circuit allows reversing of operation with an efficiency practically equal to the efficiency of a nonreversing MA. The control characteristic passes through zero. The semiconductor valves (transistors) operate in the switching mode at low voltage and create practically no power losses. The operation in the upper portion of the characteristic (high powers) occurs as in a nonreversing circuit through the saturated transistor, which in this case can transmit many times more power. 4 Figures.

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1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--[INDUCED ENZYMES AND IONIZING RADIATION. I. CHANGE IN THE ACTIVITY
OF TRYPTOPHAN PYRROLASE IN RATS AFTER IRRADIATION -U-
AUTHOR-(02)-POPOV, P.G., ANKOV, V.K.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 32-6
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--X RAY RADIATION BIOLOGIC EFFECT, LIVER, ENZYME ACTIVITY,
RADIATION DOSAGE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0449 STEP NO--UR/0205/70/010/001/0032/0036
CIRC ACCESSION NO--AP0121123
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121123

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRYPTOPHAN PYRROLASE ACTIVITY HAS BEEN DETD. IN THE LIVER OF 87 RATS 4, 27, 48, AND 72 HR AFTER WHOLE BODY X IRRADN. WITH DOSES OF 0.9, 1.8, AND 5 KR (180 KV, 15 MA, FILTER 3 MM AL, FOCUS DISTANCE 50 CM, DOSE RATE 72 R-MIN). PEAKS OF TRYPTOPHAN PYRROLASE ACTIVITY WERE OBSD. 4 AND 72 HR AFTER THE IRRADN. THE ACTIVITY INCREASE OBSD. WAS MAINLY DUE TO AN INCREASE IN THE AMT. OF APOENZYME. THE SYNTHESIS OF NEW APOENZYME 4 HR AFTER IRRADN. WAS NOT DISTURBED BY UP TO 1.8 KR IRRADN.; IT WAS INHIBITED BY APPROX. 10-25PERCENT AT 5 KR IN COMPARISON WITH VALUES OBSD. AT 1.8 KR. NO SUBSTANTIAL CHANGES IN THE ACTIVATING PROPERTIES OF MICROSOMES WERE NOTED. FACILITY: VYSSH. VOENVO-MED. INST., SOFIA, BULG.

UNCLASSIFIED

USSR

ANKUNDINOV, A. L.

"Calculation of a Viscous Hypersonic Shock Layer with Mass Input at Moderately Low Reynolds Numbers"

Moscow, Mekhanika Zhidkosti i Gaza, No 3, 1970, pp 40-45

Abstract: The two-dimensional steady-state problem of a viscous hypersonic stream in the vicinity of nonslender smooth bodies is investigated within the framework of Cheng's two-layer model of a thin shock layer for a region that is not restricted to the vicinity of the stagnation point. Attention is given to the conditions of a given wall temperature, a heat-insulated surface, and to conditions of the injection, from the surface, of a gas of the same kind as the gas in the main flow. A form of conversion of the regions of the viscous shock layer in terms of generalized Mises variables is proposed, which permits the problem in the semi-infinite to be considered in the same manner for blunted and sharp two-dimensional and axially symmetrical bodies without expansion into a series along the longitudinal coordinate in the vicinity of the critical point, and which discloses the special feature of the solution in a pointed tip. In difference methods, which do not require calculation of the region derivative, the proposed

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USSR

ANKUNDINOV, A. L., *Mekhanika Zhidkosti i Gaza*, No 3, 1970, pp 40-45

conversion makes it possible to avoid disclosure of the uniqueness on the wall which is characteristic of the problem in terms of the variables under consideration. Some results of calculation of the shock layer on a sphere and on a sharp cone are presented.

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USSR

UDC 8.74

ANKUDINOV, G. I.

"An approach to the Problem of Synthesizing the Structure of an Information System"

V sb. Probl. sistemotekhniki. Vyp. 1 (Problems of Systems Engineering. Vyp. 1 --collection of works), Sudostroyeniya, 1972, pp 23-26 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V446)

Translation: A study was made of one of the possible approaches to the problem of synthesizing information system structures permitting the discovery of a set of structures and the order of preference in this set with respect to the global quality criterion. By the structure of a system we mean the graph the vertices of which correspond to the structural elements taken from a set and the lines which correspond to the relations between the structural elements. By the structural element of an information system we mean a set of physical elements realizing a class accurately or the approximately equivalent algorithm such that each representative of the set of elements corresponds one-to-one to a representative of the class of elements of the equivalent algorithms. In addition, the elements of the set are distinguished with respect to speed, cost, reliability and other parameters.

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1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EXCITATION OF THE L SUBALPHA LINE DURING STRIPPING OF FAST NEGATIVE
HYDROGEN IONS IN INERT GASES -U-
AUTHOR-(04)-ORBELI, A.L., ANDREYEV, YE.P., ANKUDINOV, V.A., DUKELSKIY,
V.M.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 6, PP 1938-1942
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--HYDROGEN, ION, PARTICLE COLLISION, HELIUM, NEON, ARGON,
KRYPTON, XENON, EXCITATION CROSS SECTION, ELECTRON ENERGY LEVEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2245 STEP NO--UR/0056/70/058/006/1938/1942
CIRC ACCESSION NO--AP0125823
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125823

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE INTENSITY OF THE LYMAN ALPHA LINE EMITTED IN COLLISIONS BETWEEN FAST HYDROGEN NEGATIVE IONS (5-40 KEV) AND HE, NE, AR, KR AND XE ATOMS IS MEASURED. THE CROSS SECTIONS FOR FORMATION OF HYDROGEN ATOMS IN THE 2S AND SP STATES AND ALSO THE TOTAL CROSS SECTIONS FOR EXCITATION OF THE N EQUALS 2 LEVEL ARE DETERMINED. IN THE ENERGY RANGE INVESTIGATED THE CROSS SECTIONS $\sigma(2P)$, $\sigma(2S)$ AND $\sigma(N \text{ EQUALS } 2)$ ARE OF THE ORDER OF 10 PRIME NEGATIVE 16 CM PRIME 2 AND $\sigma(2P)$ LARGER THAN $\sigma(2S)$. IN ALL CASES INVESTIGATED (WITH THE EXCEPTION OF HE) THE CROSS SECTIONS $\sigma(2S)$, $\sigma(2P)$ AND $\sigma(N \text{ EQUALS } 2)$ WEAKLY DEPEND ON THE H NEGATIVE ION ENERGY. FOR XE MINIMA ARE OBSERVED ON THE CROSS SECTION CURVES $\sigma(2S)$, $\sigma(2P)$ AND $\sigma(N \text{ EQUALS } 2)$ AT ENERGIES BETWEEN 12 AND 30 KEV. A POSSIBLE MECHANISM OF PRODUCTION OF EXCITED HYDROGEN ATOMS IN STRIPPING OF NEGATIVE HYDROGEN IONS AS A RESULT OF REMOVAL OF THE INNER ELECTRON FROM THE H NEGATIVE ION IS DISCUSSED. FACILITY: FIZIKO-TEKHNICHESKIY INSTITUT IM. A. F. IOFFE AN SSSR.

UNCLASSIFIED

USSR

UDC 669.017 : 620.17

SEVERDENKO, V. P., KALACHEV, M. I., and ANKUT, P. P., Physicotechnical Institute, Academy of Sciences Belorussian SSR

"Titanium Flow Curves in Octahedral Coordinates Under Various Strain Conditions"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 1, 1973, pp 5-8

Abstract: Flow curves in octahedral coordinates were plotted for commercially pure titanium VT1-1 according to the results of tests described in a previous article by the authors. The straining followed three different stressed state schemes (tension, compression, torsion) in the $-196 - 800^{\circ}\text{C}$ range. An analysis of the curves for variations in octahedral shear stress indicates that the process of titanium plastic flow is largely influenced by such factors as the plastic strain mechanism and structural transformations taking place during strain. The extent to which these factors are manifested depends on the straining conditions and the stressed state scheme. Finely dispersed phases isolated in the slip zones signify that the critical

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USSR

SEVERDENKO, V. P., et al., Izvestiya Akademii Nauk BSSR, Seriya Fiziko-Tekhnicheskikh Nauk, No 1, 1973, pp 5-8

shear stress begins to be affected by normal stresses acting along the shear planes. The shape of the strain hardening curves to a certain extent may be influenced by the twinning process.

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1/2 038 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EFFECT OF MAGNETOSTRICTION DEFORMATIONS ON THE EPITAXIAL GROWTH OF
FERROMAGNETIC FILMS -U-
AUTHOR--PYNKO, V.G., TEMCHENKO, N.SH., ANNATAGANOV, N.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(3), 960
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--EPITAXIAL GROWTH, FERROMAGNETIC FILM, NICKEL ALLOY, PALLADIUM
ALLOY, SINGLE CRYSTAL FILM, MAGNETOSTRICTION, IRON ALLOY, COBALT ALLOY,
MAGNETIC FIELD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0654 STEP NO--UR/0181/70/012/002/1960/ 100
CIRC ACCESSION NO--AP0105633
UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--11/07/70

CIRC ACCESSION NO--AP0105633

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SERIES OF FILMS WAS PREP'D. OF BINARY ALLOYS OF THE SYSTEM FE-NI-CO. A MAGNETIC FIELD HAS ALMOST NO EFFECT ON THE GROWTH OF FILMS WHICH HAVE SMALL MAGNETOSTRICTION, E.G. 80NI-20FE. ON NaCl SUBSTRATES WITHOUT APPLICATION OF A MAGNETIC FIELD, NO GOOD SINGLE CRYSTAL FILM OF NI-PD CAN BE GROWN CONTG. 30-60PERCENT PD, I.E. ALLOYS HAVING ESP. HIGH MAGNETOSTRICTION. ON ZIF (SIC) AND "X" SUBSTRATES THESE ALLOYS GROW AS SINGLE CRYSTALS. THE MECHANISM OF GROWTH OF THESE FILMS IS DISCUSSED.

UNCLASSIFIED

USSR

UDC 612.017.2

MEYERSON, F. Z. and ANNANUROVA, L. A., Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR

"Effect of Inhibitors and Stimulants of the Synthesis of Nucleic Acids and Proteins on Adaptation to High-Altitude Hypoxia"

Ashkhabad, Izvestiya Akad. Nauk Turkenskoy SSR, No 5, 1972, pp 3-15

Abstract: Experiments on rats confirmed the established fact that at 7000 m above sea level, oxygen consumption decreases markedly (by 30%) in unadapted animals. Injection of adapted animals with actinomycin 2763, an inhibitor of RNA synthesis, produced a decrease in oxygen consumption of the same magnitude as in unadapted animals. This decrease is ascribed to impaired biosynthesis in the mitochondria and lessened capacity of these organelles to utilize oxygen. Injection of rats adapted to high-altitude hypoxia with an anabolic hormonal preparation (nerobole) or with a combination of cofactors of nucleic acid synthesis (orotic acid, folic acid, and vitamin B₁₂) markedly reduced the amount of weight normally lost in hypoxia. In addition, the combination of agents increased the hemoglobin concentration and number of red blood cells while reducing the degree of reticulocytosis. Thus, the use of inhibitors and stimulants of nucleic acid synthesis can promote adaptation to high-altitude hypoxia.

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USSR

UDC 577.4

MEYERSON, F. Z., MARKIN, V. B., ANNANUROVA, L. A., LOBINOVA, YE. V., and
MAYZELIS, K. YA., Institute of Normal and Pathological Physiology, Academy
of Medical Sciences USSR

"Effect of RNA Synthesis Inhibitor on the Development of Adaptation to High-
Altitude Hypoxia"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 3, May/Jun
72, pp 405-412

Abstract: The importance of increased nucleic acid and protein production
in adaptation to high-altitude hypoxia was evaluated by administering
actinomycin 2703 -- an RNA synthesis inhibitor -- to rats raised in 500
meter increments to 7,000 meters over a 25-day period in an altitude chamber
(6 hrs/day exposure). Experiment variations included rats unadapted to
hypoxia (control) (1), adapted over 25 days (2), unadapted and given actino-
mycin for 5 days (3), and adapted over 25 days and given actinomycin from
the 20-25th days (4). Weight gain rate decreased in group 2 as compared
to controls, weight decreased 7% in group 3, while weight decreased 16% in
group 4 and 63% of the animals died during acute hypoxia generated by raising
them to 11,000 meters at 60-100 meters/sec. Protein synthesis in the
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USSR

MEYERSON, F. Z., et al., Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 3, May/Jun 72, pp 405-412

heart and cerebral cortex increased in group 2, remained normal in group 3, but decreased in group 4, indicating that actinomycin is inhibitory only during adaptation to hypoxia. While O_2 consumption decreased 30% in group 1 at 7,000 meters, by the 25th day of adaptation the decrease diminished to 10% in group 2. Actinomycin produced no significant changes in group 3 as compared to controls. In group 4 however, actinomycin caused O_2 consumption to decrease 20-25%. Moreover the consumption decreased 22% at sea level for this group, indicating that something other than the O_2 transport system had been affected, since O_2 is readily available and there is no stress on the transport system. This idea is further supported by the fact that while the breathing rate decreased over the adaptation period, actinomycin caused it to rise again. Nor did the drug cause abnormal changes in erythrocyte and hemoglobin counts. Finally, animals given actinomycin and exposed to acute hypoxia died not during exposure but on the following day in an abundance of O_2 . Thus it is suggested that actinomycin disrupts O_2 utilization -- i.e., mitochondrial function, rather than O_2 transport. The increased protein and nucleic acid production detected is a necessary part of adaptation to hypoxia, and it is inhibited by suppression of mitochondrial activity.

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- 12 -

USSR

UDC: 537.5:621.315.592

ANNAYEV, R. G., MEL'NIKOVA, L. L., Turkmen State University
imeni A. M. Gor'kiy

"On Conversion of n-GaSb Under Electron Bombardment"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR: Seriya
Fiziko-Tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk,
No 2, 1972, pp 103-104

Abstract: The authors investigate the electrophysical properties of n-gallium antimonide irradiated with fast electrons. The specimens were doped with tellurium to an electron concentration of $(1-8) \cdot 10^{17}$ per cc. The Hall coefficient was measured at 77-300°K with increasing doses of fast electrons with an energy of about 3.75 MeV. The Hall mobility was determined as the product of the Hall coefficient and conductivity. The results are tabulated for electron doses up to $1.4 \cdot 10^{-7}$ electrons per sq. cm. It was found that the Hall coefficient increases and the mobility decreases with exposure to fast electrons. Exposure to the highest dose results in an anomalously low Hall

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USSR

ANNAYEV, R. G., MEL'NIKOVA, L. L., IAN Turkmen SSR: Ser. Fiz.-Teh.,
Khim. i Geol. Nauk, No 2, 1972, pp 103-104

coefficient, low Hall mobility, and a reversal in the sign of the Hall emf. This conversion of conductivity from n-type to p-type is possibly due to the fact that many more acceptors than donors are formed under electron bombardment. The reduction in mobility may be due to an increase in the concentration of defects and to the lower phonon mobility because of the larger effective mass of holes as compared with electrons. The authors thank E. P. Gofman for furnishing the specimens. One table, bibliography of two titles.

a/p

USSR

UDC 539.292

ANNAYEV, R. G., KORSHIK, Yu. G., LAGUYEV, D. Kh.

"Variation With Temperature of the Electrical Resistance of Cobalt-Vanadium Alloys in a Longitudinal Magnetic Field"

Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-Tekhnicheskaya, Khimicheskaya i Geologicheskaya, No 1, 1970, pp 105-109

Abstract: The article deals with an investigation of the variation with temperature of the longitudinal galvanometric effect in ferromagnetic binary alloys of cobalt with vanadium, on the basis of polycrystalline specimens.

1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--MAGNETO RESISTANCE IN THIN FILMS OF NICKEL PALLADIUM ALLOY SYSTEMS
-U-
AUTHOR--(04)-ANNAYEV, R.G., ROZYEV, M.A., MYALIKGULYEV, G., YAZLIYEV, S.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK TURKM. SSR, SER. FIZ. TEKH., KHIM. GEOL. NAUK
1970, (1), 101-5
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--NICKEL ALLOY, PALLADIUM ALLOY, METAL FILM, MAGNETORESISTANCE,
MAGNETIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/0134 STEP NO--UR/0202/70/000/001/0101/0105

CIRC ACCESSION NO--AP0054980
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LONGITANCE WAS MEASURED IN THIN NI-PD FILMS OVER A WIDE RANGE OF THICKNESS AND COMPN. TO CONFIRM THE 1 PHASE NATURE OF THE FILMS. FILMS 600-1200 ANGSTROMS THICK CONTG. 0-80 AT. PERCENT PD WERE PREPD. BY THE METHODS DESCRIBED EARLIER (1968).

A STRONG EFFECT OF THE TRUE MAGNETIZATION WAS OBSD. FOR ALL OF THE FILMS EVEN AT ROOM TEMP. THE FILMS CONTG. SMALLER THAN OR EQUAL TO 40 AT. PERCENT PD ARE SINGLE PHASE.

UNCLASSIFIED

AA0039846

A

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

3/70

237302 COPYING ELECTRO-EROSION MACHINE can copy the profile of template 10 on a reduced scale on workpiece 21. The copying slide is linked through a cylindrical guide to ball 18 at the end of bar 17 with a similar guide ball 20 in the top plate at its other end. Ball 19 near the upper end of the bar is guided in the working slide which carries erosion head 15.
8.1.68. as 1209577/25-28. E.A. ANNENBERG.
S.V. ZHITOMIRSKIY Cutting-Machine Tools Res. Inst.
(24.6.69.) Bul. 8/12.2.69. Class 21h. Int. Cl. B23k.

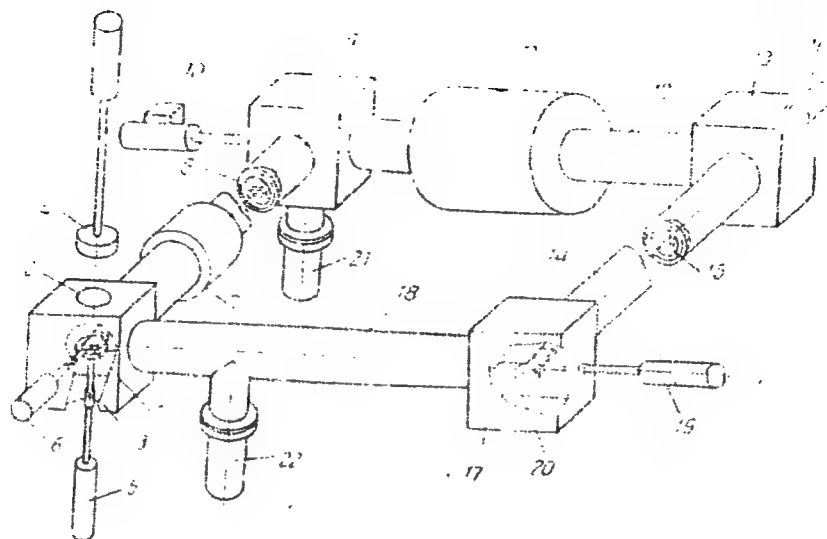
AUTHORS: Annenberg, E. A.; and Zhitomirskiy, S. V.

18

Eksperimental'nyy Nauchno - Issledovatel'skiy Institut
Metallorazhushchikh Stankov

19741231

AA0939846.



19741232

US3R

UDC [537.01:537.342.35]:[537-986]

ARTENKOV, YU. M., and GRISHNEV, V. A.

"Electrical Properties of Crystals of Solid Solutions of Alkali-Halide Compounds of KCl-KBr System"

Izv. Tomsk. politekh. in-ta (News of Tomsk Polytechnic Institute), 1971, 180, pp 164-166 (From Khimiya, No 1, Jun 72, Abstract No 1B1326 by P. V. MEIKLYAR)

Translation: Electrical conductivity σ' and dielectric loss ($\tan \delta$) were determined using KCl-KBr single crystals with a varying ratio of admixture. σ' declines with an increase of KBr concentration. The introduction of Li^+ causes a sharp drop in σ' , especially in KCl even with a low KBr concentration. For OH^- -doped crystals, an increase of KBr concentration in KCl even causes an increase in σ' . The dependence of σ' on the salt admixture is determined by the presence of an admixture of bivalent cations, the concentration of which is greater in KCl than in KBr. The OH^- ions bind the bivalent cations and also causes a decline in σ' , which is most marked in KCl. The temperature variation of $\tan \delta$ with the composition of the crystals is similar to the variation of σ' .

2/7

1/2 016 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--DETERMINATION OF THE CONSTANTS OF A BROMOACROLEIN COPOLYMERIZATION
WITH VINYL BUTYL ETHER AND ACRYLEIN -U-
AUTHOR--SHOSTAKOVSKIY, M.F., ANNENKOVA, V.A., UGRYUMOVA, G.S.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 2, SERIYA
KHIMICHESKIKH NAUK, 1970, NR 1, PP 166-168
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPOLYMERIZATION, BROMINATED ORGANIC COMPOUND, ALDEHYDE,
ETHER, REDOX REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1764

STEP NO--02/0289/70/000/000/016/0159

CIRC ACCESSION NO--AP0100344

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100344

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COPOLYMERIZATION OF A
BROMOACROLEIN IN THE REDUCTION OXIDATION SYSTEM AG NO SUB3 .K SUB2 S
SUB2 O. SUB8 WITH VINYL BUTYL ETHER AND ACROLEIN WAS INVESTIGATED AND THE
CONSTANTS OF COPOLYMERIZATION DETERMINED.

UNCLASSIFIED

USSR

UDC 541.64:542.954

ANNENKOVA, V. Z., ANTONIK, L. M., and ANNENKOVA, V. M., Irkutsk Institute of Organic Chemistry, Siberian Affiliate of the Academy of Sciences USSR, Irkutsk

"Phosphorylation of Polyacroleins"

Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 15, (A), No 9, Sep 73, pp 2104-2105

Abstract: Samples of two polyacroleins (one with up to 25% of -C=C-groups and 75% of aldehyde groups and another with up to 60% of aldehyde groups and 28% of -C=C-groups) were reacted with PCl_3 on being suspended in glacial acetic acid, whereupon the intermediate compound was hydrolyzed with a minimum amount of H_2O . With an increasing reaction time in the 3-10 hrs range, the content of P in the products increased. Potentiometric titration showed that the phosphorylated polymers were rather strong monofunctional acids with acid numbers of 2,4-3,8 mg-equiv/g that corresponded to the P content of the polymers if the calculation was carried out for a monofunctional acid. Evidently cross-linking over P-OH groups with the formation of P-O-P groups took place. With an increasing length of the reaction time, the number of -C(=O)H groups decreased and cross-linking over the double bonds of -C=C- groups took place to an increasing extent.

1/1

Acc. Nr:

AP0053455

Abstracting Service:

CHEMICAL ABST.

Ref. Code:

51301

UR0366

110712c Synthesis of vic-dihaloacroleins. Annenkova, V.
Z.: Ugryumova, G. S. (Irkutsk. Inst. Org. Khim., Irkutsk,
USSR). Zh. Org. Khim. 1970, 6(2), 232-3 (Russ). The halo-
genation of $H_2C: CXCHO$ (X is Br or Cl) without solvent, fol-
lowed by dehalogenation of the H_2XCCX_2CHO with Et_3NH at
0-5° gave 43-5% $XCH: CXCHO$. CPJR

REEL/FRAME
19830480

7

1/2 007 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--1,2,DIHALOACROLEINS -U-

AUTHOR-(02)-ANNENKOVA, V.Z., UGRYUMOVA, G.S.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,391

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI, 1970
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACROLEIN, HALOGENATED ORGANIC COMPOUND, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0857

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136291

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136291
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 1,2,DIHALOACROLEINS PREPD. BY
HALOGENATING 2,HALOACROLEIN AND TREATING THE PRODUCT WITH ET SUB2 NH AT
MINUS 20 TO PLUS 5DEGREES. FACILITY: IRKUTSKIY INSTITUT
ORGANICHESKOY KHIMII SIBIRSKOGO OTDELENIYA AN SSSR.

UNCLASSIFIED

USSR

UDC 541.64:542.954

ANNENKOVA, V. Z., ANTONIK, L. M., and ANNENKOVA, V. M., Irkutsk Institute of Organic Chemistry, Siberian Affiliate of the Academy of Sciences USSR, Irkutsk

"Phosphorylation of Polyacroleins"

Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 15, (A), No 9, Sep 73, pp 2104-2105

Abstract: Samples of two polyacroleins (one with up to 25% of -C=C-groups and 75% of aldehyde groups and another with up to 60% of aldehyde groups and 28% of -C=C-groups) were reacted with PCl_3 on being suspended in glacial acetic acid, whereupon the intermediate compound was hydrolyzed with a minimum amount of H_2O . With an increasing reaction time in the 3-10 hrs range, the content of P in the products increased. Potentiometric titration showed that the phosphorylated polymers were rather strong monofunctional acids with acid numbers of 2,4-3,8 mg-equiv/g that corresponded to the P content of the polymers if the calculation was carried out for a monofunctional acid. Evidently cross-linking over P-OH groups with the formation of P-O-P groups took place. With an increasing length of the reaction time, the number of -C(=O)H groups decreased and cross-linking over the double bonds of -C=C- groups took place to an increasing extent.

1/1

USSR

UDC 632.45

KONDRIKOV, B. N., ANTIKOV, V. E., KOZAK, G. D. and LUSHKIN, V. P.

"Several Ways of Reducing the Flammability of Ammonium Nitrate Explosives"

V sb. Nauchno-tekhn. konferentsiya. Mosk. khim.-tekhnol. in-t im. D. I. Mendeleeva. Tezisy dokl. (Scientific-Technical Conference, Moscow Institute of Chemical Technology imeni D. I. Mendeleev, Abstracts of Reports -- collection of works), Moscow, 1969, pp 113-114 (from RZh-Khimiya, No 1(II), 16 Jan 70, Abstract No 1 N351)

Translation: It is shown that in the presence of coal particles, reduction of flaming flammability by means of Li and Na fluorides, cyanuric acids, and boronine as additives in explosives prove to be less effective; only oxalates and diazmonium phosphates withstand the catalytic effect of coal. A mixture of LiF and CaF_2 or LiF and Na_2AlF_6 is the best safety explosive additive. The flammability of explosives rises with greater additive particle size. It is also possible to considerably reduce the flammability of explosives containing hexogen and nitroglycerin by the addition of diazmonium phosphate and LiF .

A. M. Shkol'nikov

1/1

1/2 046 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SEVERAL WAYS OF REDUCING THE FLAMMABILITY OF AMMONIUM NITRATE
EXPLOSIVES -U-
AUTHOR-(04)-KONDRIKOV, B.N., ANNIKOV, V.E., KOZAK, G.D., LUSHKIN, V.P.

COUNTRY OF INFO--USSR

SOURCE--V SB. NAUCHNO-TEKH. KONFERENTSIYA. MOSK. KHIM.-TEKHVOL. IN-T IM.
REFERENCE--RZH-KHIMIYA, NO 1(11), 10 JAN 70, ABSTRACT NO 1 N35INCE, MOSCOW
DATE PUBLISHED-----70

SUBJECT AREAS--ORDNANCE, PROPULSION AND FUELS, CHEMISTRY

TOPIC TAGS--AMMONIUM NITRATE, EXPLOSIVE, COAL, LITHIUM, SODIUM COMPOUND,
AMINE DERIVATIVE, HEXOGEN, PHOSPHATE, CALCIUM FLUORIDE, LITHIUM
FLUORIDE, ALUMINUM FLUORIDE, NITROGLYCERIN, FLAMMABILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0019

STEP NO--UK/0000/69/000/000/0113/0114

CIRC ACCESSION NO--AR0127319

UNCLASSIFIED

2/2 046

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AR0129319

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT IN THE PRESENCE OF COAL PARTICLES, METHODS OF REDUCING FLAMMABILITY BY MEANS OF LI AND NA FLUORIDES, CYANURIC ACID, AND MELAMINE AS ADDITIVES IN EXPLOSIVES PROVE TO BE LESS EFFECTIVE; ONLY OXALATES AND DIAMMONIUM PHOSPHATES WITHSTAND THE CATALYTIC EFFECT OF COAL. A MIXTURE OF LIF AND CAF SUB2 OR LIF AND NA SUB3 ALF SUB6 IS THE BEST SAFETY EXPLOSIVE ADDITIVE. THE FLAMMABILITY OF EXPLOSIVES RISES WITH GREATER ADDITIVE PARTICLE SIZE. IT IS ALSO POSSIBLE TO CONSIDERABLY REDUCE THE FLAMMABILITY OF EXPLOSIVES CONTAINING HEXOGEN AND NITROGLYCERIN BY THE ADDITION OF DIAMMONIUM PHOSPHATE AND LIF.

UNCLASSIFIED

USSR

UDC 615.616.24-003.656.6

ANNUS, KH. I.

"Experimental Study of the Combined Effect of Shale Dust and Certain Accompanying Production Factors in the Development of Morphologic Alterations in the Regional Lymph Nodes of the Lungs of Rats"

Sb. dokl. 2-to Resp. shezda epidemiologov, mikrobiologov, infektionistov i gigiyenistov (Collection of Reports from the Second Republic Congress of Epidemiologists, Microbiologists, Specialists in Infectious Diseases and Hygienists), Tallin, 1972, pp 339-341 (from RZh--Farmakologiya. Khimioterapevticheskiye Sredstva, Toksikologiya, No 3, Mar 73, Abstract No 3.54.891)

Translation: A rat was subjected to the inhalation effect of the dust from hot shale in a concentration of 20.3-29.75 mg/m³; along with the dust treatment, part of the animals were subject to cooling and the effect of CO in a concentration of 6.25-12.5 mg/m³ and MO₂ (1-5 mg/m³). The tracheobronchial lymph nodes were investigated after 6 and 12 months of inhalation. The histologic study and planimetric measurements demonstrated that part of the inhaled

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USSR

ANNUS, KH. I., Sb. dokl. 2-go Resp. sbezda epidemiologov, mikro-biologov, infektsionistov i gigiyenistov, 1972, pp 339-341

shale dust moves out of the lungs into the tracheobronchial lymph nodes and even in small doses causes proliferative alterations in the form of dust granules. The gases and cooling had no effect on the development of the alterations in the tracheobronchial lymph nodes. USSR, Tallin, Institute of Experimental and Chemical Medicine of the Estonian SSR Ministry of Public Health.

2/2

1/2 022 UNCLASSIFIED PROCESSING DATE--23 OCT 79
TITLE--ON REPRESENTATION OF PHASE INFORMATION IN PROBLEMS OF VISUAL
ANALYSIS AND ON RECOGNITION OF COMPLEX ACOUSTIC SIGNALS BY OPERATOR -U-
AUTHOR-(02)-ANDKHN, A.M., GRISHIN, V.G.
COUNTRY OF INFO--USSR *A*
SOURCE--AVTOMATIKA I TELEMEXHANIKA, 1970, NR 3, PP 177-182
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ACOUSTIC SIGNAL, SIGNAL ANALYSIS, SPEECH SIGNAL, SPECTRUM
ANALYZER, PHASE ANALYSIS

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/1456 STEP NO--UR/0103/70/000/003/0177/0142
CIRC ACCESSION NO- AP0106712
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--2300170

CIRC ACCESSION NO--AP0106212

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERE IS DESCRIBED A DEVICE FOR A THREE DIMENSIONAL (BRIGHT) REPRESENTATION OF THE RELIEF OF THE DERIVATIVE OF THE PHASE INSTANTANEOUS SIGNAL SPECTRUM. THE PERSPECTIVENESS OF THE APPLICATION OF SUCH DEVICES TO THE PROBLEMS OF THE ANALYSIS AND THE CLASSIFICATION OF COMPLEX ACOUSTIC SIGNALS (SPEECH, PHONOCARDIOGRAMS, ETC.) IS SHOWN.

UNCLASSIFIED

USSR

UDC: 621.373:530.145.6

ANOKHIN, A. V., MARKOVA, S. V., PETRASH, G. G.

"Pulse Emission on Vibrational Transitions of CO During Cooling of the Gas"

Kratk. soobshch. no fiz. (Brief Reports on Physics), 1970, No 8, pp 15-21
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12D215)

Translation: To study emission on vibrational transitions in CO in the pulse mode, the gas was cooled by using cold nitrogen. Pulse emission was studied in a CO discharge and CO-He, CO-H₂ and CO-H₂-He mixtures. Emission on a Co-He mixture was studied in greatest detail. Emission in the CO discharge had considerably less power and a completely specific nature as compared with emission in the mixtures. It is shown that the presence of He considerably improves emission on CO transitions. The most characteristic feature of emission on CO-He is the abrupt increase in emission power in the afterglow. It is assumed that the formation of an inversion on CO transitions can be explained by a relaxation mechanism with respect to the vibrational levels of an anharmonic oscillator. A. K.

1/1

ANOKHIN B. G.

Article by B. G. Anokhin, Institute of Chemistry, Academy of Sciences of the USSR, Moscow, U.S.S.R. (Received 1985-10-10; revised 1986-01-10; accepted 1986-02-10). Published in *Journal of Electroanalytical Chemistry*, 1986, Vol. 200, No. 1, pp. 1-10. © 1986 Elsevier Science B.V. All rights reserved.

The Sandwich method of growing epitaxial layers of Si with electrical parameters by the Sandwich method it is necessary to know in detail the transport coefficients of the alloying admixtures for specific process conditions. The indicated problems are applied to silicon are explained briefly incompletely in the literature [1, 2].

The purpose of this paper was to determine the transport coefficients K_{eff} of the source (the concentration ratio of the admixture in the epitaxial layer and the source) of certain donor and acceptor admixtures P , As , B , Fe , Ga , Al and their dependence on the transport conditions when transporting silicon through the volatile dichloride $SiCl_2$ by the reversible reaction



ANO 012008

A

25 4R9007

AUTHORS-- ANOKHIN, S., AND GALLAY, M., MERITORIOUS TEST PILOTS,
U.S.S.R., KUPFER, M. AND GRIBOVSKIY, V., AIRCRAFT
DESIGNERS, TSYBIN, P. AND PYSHNOV, V., MERITORIOUS
SCIENTISTS AND ENGINEERS, RAUSHENBAKH, V., CORRE-
SPONDING MEMBER OF THE ACADEMY OF SCIENCES, AND
KOSTENKO, I., CANDIDATE OF TECHNICAL SCIENCES

TITLE-- WINGS FOR THE IMPOSSIBLE DREAM

NEWSPAPER-- KOMSOMOL, SKAYA PRAVDA, JANUARY 15, 1970, P 2, COLS 3-5

ABSTRACT-- THE AUTHORS ARE PROPOSING THE ESTABLISHMENT OF AN INTER-
AGENCY COMMISSION ON GLIDERS AND SMALL-ENGINE PLANES
WHICH WOULD GUIDE AND COORDINATE ALL THE ACTIVITIES
CONNECTED WITH DO-IT-YOURSELF AIRCRAFT.

4

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4 pw

USSR

UDC 621.762

OGNEV, R. K., TER-POSSYAN, F. D., KOLOMOYETS, G. G., PIREVYAZKO, A. I.,
ESTRAKH, L. M., and ANOKHIN, V. M.

"Powder Metallurgy Filters Made of Titanium Scraps"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya
Publishing House, Vol 6, 1970, pp 97-99

Translation: The effect of the technological parameters of manufacture and properties of the initial titanium powder on filter productivity are studied. It is discovered that it is expedient to compact filters at pressures up to two tons/cm² and to sinter them at temperatures not exceeding 1,100°C. Filter productivity is determined during filtration of liquids, and the dependence of productivity on a drop in pressure to one atmosphere and on the size and shape of grains of the initial powder is established. It is determined that the water carrying capacity of filters manufactured from hydride powder is 3-5 times greater than similar one made of electrolytic powder. Two illustrations and two bibliographic entries.

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USSR

UDC 621.762

OGNEV, R. K., KOLOMOYETS, G. G., TER-POGOSYAN, E. D., ESTRAM, L. M.,
ANOKHIN, V. M., and PERMYAKOV, A. I.

"The Effect of Technological Parameters on the Qualities of Construction
Articles Obtained by the Method of Compacting Titanium Powders"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya
Publishing House, Vol 6, 1970, pp 94-97

Translation: The effect of the features of initial powders and the technological parameters in manufacturing construction articles on their mechanical properties is considered. When identical compacting pressures, the density of articles made of electrolytic powder is greater by 4-7% than for similar articles made of hydride powder, and this gap decreases during the process of heat treatment. Increasing the sintering temperature of the powder metallurgy titanium leads to an increase in tensile strength and elongation per unit length. When heat treatment is at a temperature of 1,300°C, the tensile strength is equal to 55-65 gincalories/mm² and the elongation per unit length reaches 11%. The illustrations, one table, and three bibliographic entries.

1/1

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USSR

UDC 621.762

FEDORCHENKO, I. M., OGNEV, R. K., KOLOMOYETS, G. G., ANOKHIN, V. M.,
REYTSSES, V. B., KAZANTSEVA, N. A., and RUTBERG, V. P.

"The Effect of Aluminum and Molybdenum on the Properties of Sintered
Titanium at Room and Elevated Temperatures"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya
Publishing House, Vol 6, 1970, pp 111-116

Translation: Results are given from research on the mechanical properties
of the alloys titanium-aluminum, titanium-molybdenum, and triple alloys
titanium-aluminum-molybdenum at room temperature and at temperatures raised
to 300°C. The alloys were obtained by mechanical blending of powders. After
compacting and sintering one time, the alloys studied had a tensile strength
up to 80 gigacalories/mm² and elongation per unit length of 5-16%. Alloy-
ing aluminum and molybdenum increases the heat resistance of sintered
titanium alloys; the short-term strength at 300°C increases by more than
two times. The stress-rupture strength increases significantly during
alloying. Four illustrations, one table, and four bibliographic entries.

1/1

- 65 -

USSR

UDC 621.762.01:669.295

2

OGNEV, R. K., KOLOMOYETS, G. G., TER-POGOSYAN, E. D., ESTRACH, L. M.,
ANOKHIN, V. M., and PEREVYAZKO, A. I.

"Influence of Technological Parameters on Properties of Structural
Products Produced by Pressing Titanium Powders"

Sb. tr. Vses. n.-i. i proyekt. in-t titana [Collected Works of All-Union
Scientific-Research and Planning Institute for Titanium], 6, 1970, pp.
94-97. (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971,
Abstract No. 1 G:53 by the authors).

Translation: The authors studied the influence of the properties of the
initial powders and technological parameters in the manufacture of
structural products on their mechanical properties. With identical
pressing pressures, the density of products of electrolytic powders is
higher than that of similar products of hydride powders by 4-7%, although
this difference is reduced during heat treatment. Increasing the
sintering temperature of metal ceramic Ti causes an increase in σ_b and δ .
With a heat treatment temperature of 1300°, σ_b is 55-65 kg/mm², δ reaches
11%. 2 figures; 1 table.

1/1

2

USSR

UDC 621.762:669-496.295

OGNEV, R. K., TER-POGOSYAN, E. D., KOLOMOYETS, G. G., PEREVYAZKO, A. I.,
ESTRAKH, L. M. and ANOKHIN, V. M.

"Metal Ceramic Filters of Titanium Wastes"

Sb. tr. Vses. n.-i. i proyekt. in-t titana. [Collected works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, pp. 97-99, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No.1 G475 by the authors).

Translation: The influence of technological parameters of the manufacture and properties of initial Ti powder on productivity of filters is studied. Pressing of filters should be performed at pressures up to 2 t/cm², sintering at temperatures of less than 1100°. The productivity of filters is determined for filtration of fluids. The dependence of productivity on pressure drop of up to 1 atmosphere and on size and shape of initial powder particles is determined. The throughput capacity for water of filters made of hydride powder is three times higher than the throughput capacity for filters made of electrolytic powder. 2 figures.

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ANOKHIN, V.Z.

5/26/63
6/13/63

11-14. STUDY OF THE CRYSTALLIZATION CONDITIONS OF TIN DIOXIDE

(Article by V. V. Lavrov, Ya. A. Uray, V. Z. Anokhin, Voronezh; Novosibirsk, Irkutsk, Polotsk, Rostov, and St. Petersburg; Poluprovodnikovye Kristally 1, 1977, No. 1, p. 24)

A study was made of the crystallization conditions and transport kinetics of tin dioxide in water vapor. It was established that the defining role is played by water dissociation. The hydrogen released in the dissociation of the water promotes reduction of the tin dioxide to elementary tin or to tin monoxide. The last-mentioned product is responsible for transport of the substance during the course of growing tin dioxide crystals.

USSR

A UDC 546.814-31:548.55

UGAY, YA. A., LAVROV, V. V., ANOKHIN, V. Z., and AVERBAKH, YE. M.,
Voronezh State University, Voronezh, Ministry of Higher and Secondary
Specialized Education, USSR
"Growth of SnO_2 Single Crystals"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol
6, No 4, Apr 70, pp 750-752

Abstract: A method is suggested for the growth of SnO_2 crystals which is more convenient than known methods for the growth of SnO_2 crystals from the gas phase. The transporting agent is water in the vapor state, continuously fed to the "evaporation" zone. A cylindrical specimen of pressed and annealed stannic oxide (diameter 22 mm) is placed in a high-temperature zone ($t = 1570^\circ \text{C}$) created by carbonium heaters inside a high-alumina ceramic tube (diameter 22 mm). A stream of water vapor from a quartz boiler is continuously fed into the furnace. The rate of water vapor feed into the SnO_2 evaporation zone does not exceed 4 mol/hr. Intensive growth of SnO_2 crystals is ob-

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UGAY, YA. A., et al., Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 4, Apr 70, pp 750-752

served in the furnace zone with a temperature $\sim 1450-1520^{\circ}$ C. The color and faceting of the freely growing crystals vary greatly according to the temperature of the crystallization zone. The article considers the growth mechanism and the attendant chemical interactions.

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USSR

UDC 669.141.241.2:621.746.5

BURDONOV, B. A., ANOKHINA, A. I., RYZHKOV, V. P., VAL'TER, V. A., and
BRONFENMAKHER, A. M., Kazakh Metallurgical Plant

"The Quality of Small Ingots of Killed Steel"

Moscow, Metallurg, No 12, Dec 70, pp 17-19

Abstract: The optimum consumption of aluminum (300-400 g/ton) for the deoxidation of St.3 and St.6 steels poured to small ingots was determined. With an aluminum consumption of 300-400 g/ton and a pouring rate of 0.4 m/min or less, cracks do not generate and hairline cracks are not observed on the final rolled metal. An increase in the number of deoxidizers in the foundry ladle results in a greater concentration of oxide impurities. A linear dependence was established between the depth of the shrink hole and the bailing period. The possibility of using calcium carbide for desulfurization of steel in the ladle is demonstrated.

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Conferences

USSR

LAZINISSEV, D. N., and ANDOSHINA, G. S.

"IV Plenum of VKhG [All-Union Chemical Association] held on 29 June 1970 in Moscow"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im. V. I. Mendeleeva, Vol 18, No 3, 1970, pp 337-342

Abstract: The IV Plenum of the All-Union Chemical Association (VKhG) was held on the 29 Jun 70 in Moscow. The agenda covered the subjects of "Direction of the scientific-technical development of chemical, petrochemical, and structural materials industries in 1971-1975", "Fulfillment of the commitments made by VKhG in connection of the 100 Anniversary of the birth of V. I. Lenin", and the approval of the workplan and budget for 1970. The president, G. I. VOLINOVICH opened the session, noting the progress of the past years. Assistant Minister for Chemical Industry in the USSR, G. V. IVAROV, talked about the future 5 year plan and the directions for scientific and technical progress, stressing the improvements and intensification of technological processes. He discussed the aspects of agricultural chemistry and production of inorganic chemicals, stressed the importance of polymers, and concluded with 1/2

USSR

LAZINTSEV, D. V., and AVONHINA, G. S., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleeva, Vol 16, No 3, 1970, pp 337-342

a short discussion of low tannate production -- new targets, their purity, analytical methods surface active agents, etc.

A. P. SAVEL'YEV discussed the directions for scientific-technical progress in petroleum processing and the petrochemical industry. The USSR is second worldwide as far as the processing of petroleum is concerned and its rate of development is greater than that of the USA. New plants have been constructed and many new processes developed. Considerable success has been achieved in synthetic rubber; the tire industry, however, needs basic modifications.

Construction materials were covered by the director of technical administration of the Ministry of Industrial Structural Materials USSR, V. I. DOBUZHINSKIY. Presently about 800 types of construction materials are being produced. He discussed the cement, glass, wall materials and ceramics industry, noting current trends in them.

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USSR

LAZINTSEV, D. N., and ANOVHINA, G. S., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleev, Vol 15, No 3, 1970, pp 337-342

S. I. VOL'FKOVICH and D. P. NOVIKOV pointed out the need for correct labor organization in the plants. B. I. SPERANOV noted that preparation of engineers lags behind the needs foreseen for the near future. G. M. STRONGIN, S. V. ZUBAREV, A. F. LOZNERIN and YU. M. BUTT discussed improvement in economic effectiveness as related to scientific organizations, transportation, rapid application of new inventions, etc.

In regard to the second portion -- the fulfillment of commitments -- the representatives of the Moscow, Ukrainian, Georgian, Ryazan', Kalinin, Bashkir, and Altai AUCA noted that progress is satisfactory; the technology of direct production of phosphoric acid was developed on schedule, new compositions were developed for various lubricants, and individual goals set by various groups were achieved. Nevertheless it was noted that in some cases serious deficiencies exist. V. P. KOMAROV talked about future plans and the budget. The budget for 1970 was set at 882.1 thousands rubles. D. N. LAZINTSEV was elected as the president of the Central Bureau of AUCA.

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Acc. Nr:

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Abstracting Service:

CHEMICAL ABST. 4-70

Ref. Code:

UR 0078

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71216x Extraction of molybdenum(VI) and rhenium(VII) from inorganic acid solutions by tertiary amines. Anokhina, L. G.; Agrynskaya, N. A.; Petrashen, V. I. *Kafedra Anal. Khim. Novocherkassk. Politekh. Inst., Novocherkassk, USSR. Zh. Neorg. Khim.* 1970, 15(1), 155-60 (Russ.). Mo(VI) and Re(VI) were extd. by PhMe solns. of dioctylmethylamine (I) or trioctylamine (II) from HCl, HNO₃, or H₂SO₄ solns. The degree of extn. decreased with acids in the order: H₂SO₄ > HCl > HNO₃. For I the max. extractability was obtained: 88-90% at pH 2.1-2.6 in HNO₃ and 97-8% at pH 2.0-3.0 in H₂SO₄ solns. II is a better extg. agent than I.

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d.

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--BACTERICIDAL ACTION OF ACRICHINE ON E. COLI AND THE PROCESS OF
TRANSFER OF R FACTORS -U-
AUTHOR--(03)-RYBKINA, L.G., ASTAPOV, A.A., ANOKHINA, R.V.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR-5,
PP 122-126
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ESCHERICHIA COLI, BACTERIAL DEOXYRIBONUCLEIC ACID, SHIGELLA,
BACTERICIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1994/0161 STEP NO--UR/0016/70/000/001/0122/0126
CIRC ACCESSION NO--AP0114557
UNCLASSIFIED

2/2 012
CIRC ACCESSION NO--AP0114557

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTEMPT WAS MADE TO ASCERTAIN THE MECHANISM OF BACTERICIDAL ACTION OF ACRICHINE ON E. COLI AND SH. NEWCASTLEI R(IIXT); A STUDY WAS MADE OF ITS EFFECT ON THE TRANSFER BY CONJUGATION OF RESISTANCE EPISOMES. INVESTIGATIONS CARRIED OUT DEMONSTRATED A MARKED BACTERICIDAL ACTION OF ACRICHINE ON E. COLI AND SH. NEWCASTLEI R(IIXT) AT THE BASIS OF WHICH LAY THE CAPACITY OF ACRICHINE TO FORM COMPLEXES WITH BACTERIAL DNA. THE TRANSFER OF MULTIPLE MEDICINAL RESISTANCE EPISOMAS IN CROSSING THE BACTERIA IS DEPRESSED ON ACCOUNT OF THE SAME CAPACITY OF ACRICHINE.
FACILITY: KUBANSKIY MEDITSINSKIY INSTITUT, KRASNODAR.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--COEFFICIENTS OF FRICTION OF AGRICULTURAL CHEMICAL POISONS WITH
RESPECT TO STEEL, CAST IRON, AND CERMET MATERIALS -U-
AUTHOR-(02)-ANOPA, V.D., SAGACH, M.F.
COUNTRY OF INFO--USSR
SOURCE--KIEV, TEKNOLOGIYA I ORGANIZATSIYA PROIZVODSTVA, NO 1, 1970, PP
109-110
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--FRICTION COEFFICIENT, CAST IRON, STEEL, POISON, AGRICULTURAL
CHEMICAL, CERMET
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY RELL/FRAPL--1999/1337 STEP NO--UR/0413/70/006/001/0109/0110
CIRC ACCESSION NO--AP0121295
UNCLASSIFIED

2/2 037

UNCLASSIFIED

PROCESSING DATE--0000770

CIRC ACCESSION NO--AP0123295

ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. COEFFICIENTS OF FRICTION ARE GIVEN FOR AGRICULTURAL CHEMICAL POISONS WITH RESPECT TO STEEL, CAST IRON, AND CEMENT MATERIALS.

UNCLASSIFIED

USSR

ANORINA, L. A.

"A Local Theorem Considering Large Deviations and Its Applications"

Sluchayn. Protsessy i Stat. Vyvody [Random Processes and Statistical Conclusions -- Collection of Works], Tashkent, Fan Press, 1971, pp 5-10 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V37 by V. Petrov).

Translation: Suppose $\{\xi_j\}$ is a sequence of independent, two-dimensional vectors with a common reticular distribution, concentrated at points X with integer coordinates. Suppose random vector ξ_1 satisfies the second moments, $E\xi_1 = 0$,

$$P(\xi_1 = X) = |X|^{-\alpha} (1 + \varepsilon(X)),$$

where $\alpha > 4$, $\varepsilon(X) = o(|X|^{-\alpha})$ where $|X| \rightarrow \infty$. If $E\xi_1^2 < \infty$, then

$P(\xi_1 + \dots + \xi_n = X) \sim P(\xi_1 = X)$ ($n \rightarrow \infty$). Under these same conditions, the asymptotic behavior of one conditional distribution is studied, related to the variational series for the sample ξ_1, \dots, ξ_n .

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